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(71) Applicant (for all designated States except US): PARTICLE SOLUTION AS [NO/NO]; Rickard Birkelandsvei 2B, N-7491 Trondheim (NO).

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BINDING A TARGET SUBSTANCE

(57) Abstract: Magnetic particles capable of binding a target substance, which comprise a magnetic material and a matrix material, wherein the magnetic material is remanent upon exposure to a magnetic field and the matrix material has a surface comprising functional groups which promote disaggregation of the particles in the presence of a liquid phase.

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(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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WO 2004/003231 A3

(54) Title: REMANENT MAGNETIC PARICLES CAPABLE OF BINDING A TARGET SUBSTANCE, THEIR PRODUCTION AND USES THEREOF

(57) Abstract: Magnetic particles capable of binding a target substance, which comprise a magnetic material and a matrix material, wherein the magnetic material is remanent upon exposure to a magnetic field and the matrix material has a surface comprising functional groups which promote disaggregation of the particles in the presence of a liquid phase.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 G01N33/543 C12N15/10 B03C1/01 B01D15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 71732 A (MANZ THOMAS ;QIAGEN GMBH (DE); FABIS ROLAND (DE); RITT CHRISTOPH ()) 27 September 2001 (2001-09-27) page 1, line 26 -page 2, line 36 page 5, line 32 -page 6, line 25 page 7, line 14 - line 16 page 14 -page 16; claims abstract ---	1-55
A	WO 99 19000 A (UNIV NEW YORK) 22 April 1999 (1999-04-22) page 19, line 14 -page 24, line 7 abstract ---	1-55
A	WO 97 22366 A (IGEN INC) 26 June 1997 (1997-06-26) page 8, line 15 - line 17 abstract ---	1-55
	-/-	

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 03/02994

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 157 323 A (MOLDAY ROBERT S ET AL) 5 June 1979 (1979-06-05) abstract ---	1-55
A	DATABASE WPI Section Ch, Week 199650 Derwent Publications Ltd., London, GB; Class A18, AN 1996-502720 XP002260583 -& JP 08 259607 A (NIPPON GOSEI GOMU KK), 8 October 1996 (1996-10-08) abstract ---	1-55
P,A	WO 03 004150 A (GENOVISION AS ;KILAAS LARS (NO); SKAGESTAD VIDAR (NO)) 16 January 2003 (2003-01-16) abstract ---	1-55
P,A	WO 03 004151 A (GENOVISION AS ;KILAAS LARS (NO); SKAGESTAD VIDAR (NO)) 16 January 2003 (2003-01-16) abstract -----	1-55

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 International Application No
 PCT/IB 03/02994

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0171732	A	27-09-2001	AU CA WO EP JP US	6380001 A 2400724 A1 0171732 A2 1266385 A2 2003528455 T 2003148101 A1		03-10-2001 27-09-2001 27-09-2001 18-12-2002 24-09-2003 07-08-2003
WO 9919000	A	22-04-1999	AU WO	9691298 A 9919000 A1		03-05-1999 22-04-1999
WO 9722366	A	26-06-1997	WO AU EP	9722366 A1 4524696 A 0879063 A1		26-06-1997 14-07-1997 25-11-1998
US 4157323	A	05-06-1979	US	4206094 A		03-06-1980
JP 8259607	A	08-10-1996		NONE		
WO 03004150	A	16-01-2003	WO	03004150 A1		16-01-2003
WO 03004151	A	16-01-2003	WO	03004151 A1		16-01-2003